



Teachers' Perceptions of Quiz Maker: Enhancing Assessment Practices in Early Childhood Education

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Abstract

This study aims to examine teachers' perceptions of using the Quiz Maker application in the assessment of early childhood learning. A quantitative approach was employed using a survey method, with data collected through online questionnaires distributed to 52 kindergarten teachers in West Sumatra Province. The findings reveal that most teachers perceive Quiz Maker as a tool that simplifies and accelerates the assessment process, enhances evaluation effectiveness, and aids in understanding children's development and thinking patterns. The application is also seen as supportive in improving teachers' professionalism by enabling more accurate and efficient assessment practices. However, some teachers reported challenges related to technical understanding and the need for stable internet access. Concerns were also raised regarding the potential impact on children's social and emotional development if the application is not used in a balanced pedagogical approach. Despite these concerns, the majority of respondents still consider Quiz Maker a promising digital tool for early childhood education assessment, provided that its implementation is supported by adequate training and thoughtful integration into the learning process. This study contributes to the development of adaptive and child-friendly technology-based assessment practices in early childhood education.

Keywords: *Early Childhood, Learning Assessment, Quiz Maker, Teacher Perception*



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INTRODUCTION

Assessment in early childhood education (ECE) plays a crucial role in observing and understanding children's holistic development (Desmita et al., 2023; Mukhtar, 2020; Sayfi'i & Ilmayanti, 2021; Sugiri & Priatmoko, 2020). The primary objective of assessment at this level is to identify the extent to which developmental competencies are achieved through the implemented learning processes (Pyle & DeLuca, 2013). Assessment is not merely an administrative task, but an integral part of a teacher's professional responsibility to understand each child's growth, needs, and unique potential (Masluhah & Afifah, 2022; Masyithoh, 2019; Warmansyah, Yuningsih, Sari, et al., 2023). According to Becker et al., (2023),

assessment involves making decisions based on specific criteria, whether qualitative or quantitative. In the context of ECE, assessments lean more toward qualitative approaches that are descriptive and narrative in nature, as young children are at an early stage of development that requires contextual understanding. Assessment involves gathering data that reflect both the process and outcomes of children's learning, such as through observation, documentation of children's work, and anecdotal records, which are then analyzed to describe their developmental progress (Dewi et al., 2021; Khadijah & Amelia, 2020; Sayfi'i & Ilmayanti, 2021; Yuningsih et al., 2024). Thus, assessment enables teachers to adjust learning strategies and provide appropriate stimulation tailored to each child's individual needs.

However, many early childhood education teachers still tend to conduct assessments using conventional methods, such as teacher-centered lectures or subjective observations, which can be monotonous and lack engagement (Anggraini & Kuswanto, 2019; Hartati, 2017; Suyadi, 2017). This limited approach often neglects the use of technology as an integrated component in both learning and assessment processes, resulting in assessments that are less reflective of children's actual developmental progress. Consequently, the quality of learning assessment in early childhood settings remains suboptimal, failing to capture the full scope of children's competencies and learning potential (Stiggins, 2005; Sum & Taran, 2020). The lack of diverse and interactive assessment methods, particularly those that incorporate digital tools, undermines the ability of educators to make informed pedagogical decisions (Janete et al., 2022). Given these challenges, it is essential to strengthen teachers' understanding and use of appropriate, engaging, and developmentally responsive assessment tools, especially in line with current technological advancements.

Technology is a system created by humans to enhance capabilities, support activities, and provide convenience across various aspects of life (Alizkan et al., 2021; Bisma et al., 2023; Warmansyah, Yuningsih, Selva Nirwana, et al., 2023; Wulandani et al., 2022). Its rapid development has made technology an integral part of daily life, especially among the younger generation in Indonesia (Nastiti & 'Abdu, 2020). In the field of education, technology plays a crucial role in addressing the challenges of the industrial revolution era—not only in teaching and learning processes but also in assessment practices (Masluhah & Afifah, 2022; Peradi et al., 2018). The availability of internet access further reinforces the role of technology as a primary tool in facilitating educational activities, including the evaluation of learning outcomes (Palomba, 2022; Priyanti & Warmansyah, 2021; Wu, 2024). Information technology, particularly the internet, enables more adaptive, accurate, and interactive assessment systems. Therefore, the integration of technology into learning assessment in early childhood education settings can serve as a stimulus to enhance teachers' motivation, while simultaneously increasing the effectiveness and efficiency in measuring children's developmental achievements holistically.

In the context of learning assessment, technology plays a pivotal role not only in supporting the assessment process but also in enabling students to explore scientific and technological knowledge more effectively (Knauf, 2017; Yastibas & Yastibas, 2015). Educational institutions are expected to remain responsive to technological advancements by providing digital tools and infrastructure that enhance the quality and efficiency of learning assessments (Murro Nuril Chasanah &

Hasibuan, 2024; Saleha et al., 2022; Warmansyah, Nurlaila, Mudinillah, et al., 2023). Access to adequate and high-quality technological facilities significantly contributes to the successful implementation of assessment practices in early childhood education (Cadd, 2012). Moreover, the integration of technology into assessment practices empowers teachers to improve their pedagogical knowledge and apply more accurate and child-centered evaluation methods (Yastibas & Yastibas, 2015). Assessment technologies can be understood as practical tools that assist educators in collecting, interpreting, and utilizing data to support developmental learning outcomes (Juhandha et al., 2015; Kemala & Rohman, 2021). Within the teaching and learning process, the use of such technologies facilitates a more dynamic and interactive approach to instruction and assessment in early childhood settings.

One of the technology-based tools that has gained significant attention in early childhood education assessment is Quiz Maker, a web-based application designed to create interactive assessments efficiently and effectively (Aina Fadillah et al., 2022). This platform allows educators to integrate learning materials with assessment activities, thus enhancing both instructional delivery and evaluation practices. The use of Quiz Maker also contributes to teacher professional development by encouraging educators to explore digital tools for pedagogical innovation (Babo et al., 2022). Its ease of use and accessibility enable educators from various regions to adopt the platform as part of their assessment strategy, making it a practical and scalable solution for early childhood education (Rahmawati et al., 2024). Moreover, several institutions have introduced specific training programs aimed at equipping teachers with the necessary skills to operate such tools, reinforcing the alignment between digital competence and quality assessment (Wiratsiwi & Prastika, 2022).

Quiz Maker provides a variety of customizable templates that support the creation of engaging and visually appealing quizzes (Gabajiwala et al., 2022). One of its main advantages lies in its ability to generate automated feedback and detailed performance reports for each learner, allowing teachers to monitor individual progress more precisely (Mudrikah et al., 2021). As a web-based assessment tool, Quiz Maker requires educators to create personal accounts, thereby ensuring secure and organized access to assessment data (Babo et al., 2022; Dirman & Mufit, 2022; Gideon et al., 2021). The platform, particularly its iSpring Quiz Maker version, is not only useful for primary and secondary education but has also been adopted in professional training contexts to develop individual competencies through structured evaluation activities (Susanti et al., 2024). Thus, integrating Quiz Maker into early childhood assessment can significantly support a more interactive, accountable, and data-driven learning environment.

The integration of digital applications in early childhood education, particularly in the domain of learning assessment, remains underexplored. Many early childhood educators still rely on traditional assessment approaches that tend to be monotonous and less aligned with the developmental needs of young children. In this context, the use of an interactive digital platform such as Quiz Maker offers an alternative that is both practical and engaging, supporting a more dynamic and meaningful assessment process.

Although several studies have discussed the role of technology in education, limited attention has been given to how early childhood teachers perceive the implementation of digital tools specifically for assessment purposes. Since teachers are the primary agents in selecting and applying assessment methods, understanding

their perspectives is essential. The Quiz Maker application, with its interactive features and user-friendly interface, allows teachers to design assessments that are more visually appealing and suitable for early learners' cognitive characteristics.

This study seeks to explore teachers' perceptions of using the Quiz Maker application in assessing early childhood learning. It aims to identify how such tools may enhance the assessment process, both in terms of effectiveness and teacher engagement. The results are expected to offer meaningful insights that can inform future practices in early childhood assessment and support the integration of appropriate technology into pedagogical strategies.

METHODOLOGY

This study employed a quantitative approach using a survey method. This approach was chosen to obtain a general overview of teachers' perceptions regarding the use of the Quiz Maker application in assessing early childhood learning. The research was descriptive in nature, aiming to systematically and factually describe phenomena based on the data collected from respondents. Data collection was carried out using an online questionnaire created via the Google Form platform. The questionnaire consisted of closed-ended statements constructed based on specific perception indicators, such as ease of use, effectiveness, benefits, and challenges faced when using Quiz Maker. The instrument was developed with careful consideration of its relevance to the context of early childhood education. The questionnaire was distributed online through WhatsApp groups and personal messages, facilitating convenient access for kindergarten teachers across West Sumatra Province. A total of 52 kindergarten teachers who had prior experience using the Quiz Maker application for classroom assessment responded to the questionnaire.

The data analysis technique used in this study was descriptive quantitative analysis. The collected data were processed by calculating the frequency and percentage for each questionnaire item. The results were then presented in tabular form to provide a clearer and more systematic visualization of the response trends among the teachers. The interpretation of the data analysis aimed to identify general patterns in teachers' perceptions of using Quiz Maker. The findings served as the basis for drawing conclusions on the effectiveness and potential of this application in supporting early childhood assessment practices. Thus, the analysis not only offers statistical insights but also contributes to reflective thinking for the development of digital-based assessment tools in early childhood education settings.

RESULTS AND DISCUSSION

Based on a survey conducted through the distribution of an online questionnaire to 52 kindergarten teachers in West Sumatra Province, a general overview was obtained regarding teachers' perceptions of the use of the Quiz Maker application in early childhood learning assessment. The majority of respondents indicated familiarity with and understanding of the application as a supporting tool in the assessment process. Overall, teachers perceived that Quiz Maker significantly facilitated and accelerated the assessment process while providing a more efficient experience in managing children's learning outcomes.

Table 1. Teachers' Perceptions of the Use of the Quiz Maker Application in Early Childhood Learning Assessment

No	Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
1	Teachers using the Quiz Maker application find it easier to assess early childhood learning	13.5%	86.5%	0%	0%
2	The Quiz Maker application simplifies the assessment process	17.3%	75%	7.7%	0%
3	Quiz Maker facilitates teachers in evaluating children's learning	15.4%	80.8%	3.8%	0%
4	Teachers find the Quiz Maker application complicated and difficult to use in assessment	5.8%	67.3%	23.1%	3.8%
5	Assessment applications are very important in the learning process	13.5%	78.8%	7.7%	0%
6	Quiz Maker is very beneficial as a learning assessment tool	9.6%	86.5%	3.9%	0%
7	Quiz Maker makes the learning assessment process more effective	13.5%	84.6%	1.9%	0%
8	The technology used in Quiz Maker affects learning outcomes	15.4%	78.8%	5.8%	0%
9	Quiz Maker helps increase teachers' enthusiasm for conducting assessments	15.4%	76.9%	6.2%	1.5%
10	Quiz Maker makes it easier for teachers to carry out assessments	21.2%	75%	3.8%	0%
11	Quiz Maker improves teachers' ability to evaluate practical learning activities for children	17%	79.2%	3.5%	0%
12	Quiz Maker tends to hinder the development of children's social and emotional skills	4.3%	75.5%	18.9%	1.3%
13	Quiz Maker helps teachers be more professional in conducting assessments	15.1%	81.1%	3.1%	0%
14	Teachers using Quiz Maker are better able to identify children's needs and problems	15.5%	77.4%	7.5%	0%
15	Quiz Maker increases teachers' sensitivity to children's emotional and developmental needs	7.5%	77.4%	15.1%	0%
16	Quiz Maker tends to provide effective feedback in assessments	11.5%	80.8%	7.7%	0%
17	Quiz Maker is too monotonous as an assessment tool	11.5%	71.2%	17.7%	0%
18	Quiz Maker improves teachers'	15.1%	73.6%	11.3%	0%

assessment practices				
19	Quiz Maker is too difficult for teachers to use in conducting assessments	7.5%	69.8%	18.9% 3.8%
20	Quiz Maker simplifies the evaluation of children's development	11.3%	83%	5.7% 0%

The results revealed that most teachers agreed that the Quiz Maker application simplifies the assessment process. A total of 86.5% of respondents agreed that the application makes assessment easier, and 84.6% believed that it enhances the effectiveness of the evaluation. In addition, 81.1% of teachers reported that the use of Quiz Maker contributes to the improvement of their professionalism in conducting early childhood learning assessments, while 83% stated that it helps them evaluate children more efficiently.

Nevertheless, several respondents reported encountering challenges in using the Quiz Maker application, particularly regarding technical understanding and the requirement for a stable internet connection. Approximately 67.3% of teachers admitted to experiencing difficulties when using the application, and 69.8% considered the tool to be quite challenging to operate. Furthermore, 75.5% of the participants expressed concerns that the application, if not used wisely, could potentially limit the development of children's social and emotional skills.

Interestingly, teachers also acknowledged positive emotional and interactive aspects resulting from the use of the application. About 77.4% of respondents indicated that Quiz Maker enhances teachers' sensitivity to children's emotional and developmental needs, and 73.6% noted that it contributes to the improvement of assessment practices. However, 71.2% of teachers perceived that the application may become monotonous if not complemented with alternative and varied assessment methods. In summary, the findings of this study suggest that the Quiz Maker application holds significant potential as an assessment tool in early childhood education. Its primary strengths lie in its ease of use, time efficiency, and support for enhancing teacher professionalism. However, the optimal use of this application requires adequate training and thoughtful integration strategies to ensure that the holistic development of children—particularly in the areas of social and emotional skills—is not overlooked.

The findings of this study align with previous research indicating that digital assessment tools, such as Quiz Maker, can enhance the effectiveness and efficiency of early childhood learning evaluations. According to [Alqurashi \(2016\)](#), digital tools in educational settings offer practical benefits, including streamlined data collection, reduced grading time, and increased teacher engagement in the assessment process. These advantages are reflected in the responses of the majority of teachers in this study, who reported that Quiz Maker simplifies and accelerates the assessment process. Moreover, consistent with the work of [Md Hashim et al. \(2024\)](#), the application appears to support the professional development of teachers by fostering a more reflective and structured approach to learning assessment, thereby increasing their confidence and competence in evaluating children's learning outcomes.

However, the limitations expressed by respondents regarding the technical challenges and potential negative impact on children's social-emotional development

highlight the importance of responsible implementation. Prior studies, such as those by Edwards (2018) and Plowman & McPake (2013), have emphasized that while educational technology can enhance learning outcomes, it must be integrated thoughtfully to avoid displacing essential interpersonal interactions crucial to early childhood development. The concern that the application may become monotonous if not diversified further underlines the need for balanced pedagogical strategies. These findings suggest that while digital tools can be powerful aids in early childhood education, their success largely depends on teacher training, digital literacy, and the integration of complementary assessment approaches that support holistic child development. This study contributes to the development of adaptive and child-friendly technology-based assessment practices in early childhood education.

CONCLUSION

Based on the research findings, it can be concluded that the Quiz Maker application holds significant potential as an assessment tool for early childhood education, as it is perceived to simplify, accelerate, and enhance the effectiveness and professionalism of teachers in conducting assessments. The majority of teachers stated that the application helps evaluate children's learning outcomes more efficiently and accurately. However, challenges such as limited technical understanding and the need for a stable internet connection remain obstacles for some users. Therefore, the use of Quiz Maker should be accompanied by proper technical training and well-integrated strategies to ensure that its implementation does not overlook the holistic development of children, including their social and emotional skills.

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REFERENCES

- Aina Fadillah, Isjoni, & Asril. (2022). Pengaruh Strategi Teka-Teki Silang Berbantuan Software Proprofs Quiz Maker Terhadap Motivasi Belajar Siswa Dalam Pembelajaran Sejarah Kelas XI IPS MAN 2 Indragiri Hilir. *JISHUM Jurnal Ilmu Sosial Dan Humaniora*, 1(2), 173–184. <https://doi.org/10.57248/jishum.v1i2.57>
- Alizkan, U., Wibowo, F. C., Sanjaya, L., Kurniawan, B. R., & Prahani, B. K. (2021). Trends of Augmented Reality in Science Learning: A Review of the Literature. *Journal of Physics: Conference Series*, 2019(1), 012060. <https://doi.org/10.1088/1742-6596/2019/1/012060>
- Alqurashi, E. (2016). Self-Efficacy In Online Learning Environments: A Literature Review. *Contemporary Issues in Education Research (CIER)*, 9(1), 45–52. <https://doi.org/10.19030/cier.v9i1.9549>
- Anggraini, W., & Kuswanto, C. W. (2019). Teknik Ceklist Sebagai Asesmen Perkembangan Sosial Emosional di RA. *Al-Athfaal: Jurnal Ilmiah Pendidikan Anak*

- Usia Dini, 2(2), 61–70. <https://doi.org/10.24042/ajipaud.v2i2.5248>
- Babo, L., Vieira, I., Torres, C., Oliveira, V., Azevedo, J., Lopes, C., & Mendonça, J. (2022). Quiz Maker Tools: Analysis And Pedagogical Applications. *14th International Conference on Education and New Learning Technologies*, 9765–9774. <https://doi.org/10.21125/edulearn.2022.2352>
- Becker, I., Rigaud, V. M., & Epstein, A. (2023). Getting to Know Young Children: Alternative Assessments in Early Childhood Education. *Early Childhood Education Journal*, 51(5), 911–923. <https://doi.org/10.1007/s10643-022-01353-y>
- Bisma, N., Desmita, D., Kharisma Diyenti, A., Adha Karim, N., Zalzabila, Z., Yulia, N., Warmansyah, J., & Sulong, K. (2023). The Influence of Audio Stories on Enhancing Digital Literacy In Early Childhood: A Survey Study. *Indonesian Journal of Early Childhood Educational Research (IJECEER)*, 2(2), 57. <https://doi.org/10.31958/ijecer.v2i2.11526>
- Cadd, M. (2012). The Electronic Portfolio As Assessment Tool And More: The Drake University Model. *Word Journal Of The International Linguistic Association*, 42(1), 96–126.
- Desmita, D., Rahmadani, S., Kharisma Diyenti, A., Warmansyah, J., Silvianetri, S., & Binti Fakaruddin, N. A. A. (2023). The Relationship of Parent-Child Interaction in Developing Effective Communication in Early Childhood. *Indonesian Journal of Early Childhood Educational Research (IJECEER)*, 2(2), 47. <https://doi.org/10.31958/ijecer.v2i2.11524>
- Dewi, D., Asril, N. M., & Wirabrata, D. G. F. (2021). Instrumen Asesmen Untuk Mengukur Perkembangan Fisik Motorik Kasar pada Anak Usia Dini. *Jurnal Pendidikan Anak Usia Dini Undiksha*, 9(3), 416. <https://doi.org/10.23887/paud.v9i3.39857>
- Dirman, H. M., & Mufit, F. (2022). Disain dan Validitas E-Instrument Five Tier-Multiple Choice Test Menggunakan iSpring Quiz Maker Sebagai Asesmen Literasi Sains Siswa Pada Pembelajaran Abad-21. *Jurnal Penelitian Pendidikan IPA*, 8(6), 3170–3179. <https://doi.org/10.29303/jppipa.v8i6.2300>
- Edwards, N. M. (2018). *Early Social-Emotional Development: Your Guide to Promoting Children's Positive Behavior*. Brookes Publishing. <http://works.bepress.com/nicole-edwards/12/>
- Gabajiwala, E., Mehta, P., Singh, R., & Koshy, R. (2022). Quiz Maker: Automatic Quiz Generation from Text Using NLP (pp. 523–533). https://doi.org/10.1007/978-981-19-5037-7_37
- Gideon, S., Sitinjak, A. A., Darmadi, H., & Rafli, M. (2021). The Implementation of iSpring Quiz Maker as The Online Exam Tool of Physics Worklab during the Covid-19 Pandemic. *Jurnal Ilmu Fisika Dan Pembelajarannya (JIFP)*, 5(2), 31–39. <https://doi.org/10.19109/jifp.v5i2.10218>
- Hartati, S. (2017). Pengembangan Model Asesmen Perkembangan Anak Taman Kanak- Kanak di Dki Jakarta. *JPUD - Jurnal Pendidikan Usia Dini*, 11(1), 19. <https://doi.org/10.21009/JPUD.111.02>
- Janete, S. M., Ferreira, P. C., & Simão, A. M. V. (2022). Dynamic assessment of self-regulated learning in preschool. *Heliyon*, 8(8). <https://doi.org/10.1016/j.heliyon.2022.e10035>
- Juhanda, A., Wulan, A. R., & Fitriani, A. (2015). Pengembangan Asesmen Portofolio Elektronik (Ape) Dalam Menilai Sikap Ilmiah Dan Penguasaan Konsep Siswa Sma Pada Laporan Praktikum Pencemaran Lingkungan. *Prosiding Seminar*

- Nasional Pendidikan Biologi 2015, Yang Diselenggarakan Oleh Prodi Pendidikan Biologi FKIP Universitas Muhammadiyah Malang, 4, 339–345.
- Kemala, A., & Rohman, A. (2021). Penilaian Perkembangan Anak Selama Belajar dari Rumah di Era Pandemic Covid-19. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 6(2), 1044–1053. <https://doi.org/10.31004/obsesi.v6i2.1129>
- Khadijah, K., & Amelia, N. (2020). Asesmen Perkembangan Kognitif Anak Usia 5-6 Tahun. *Al-Athfaal: Jurnal Ilmiah Pendidikan Anak Usia Dini*, 3(1), 69–82. <https://doi.org/10.24042/ajipaud.v3i1.6508>
- Knauf, H. (2017). Making an Impression: Portfolios as Instruments of Impression Management for Teachers in Early Childhood Education and Care Centres. *Early Childhood Education Journal*, 45(4), 481–491. <https://doi.org/10.1007/s10643-016-0791-0>
- Masluhah, M., & Afifah, K. R. (2022). Electronic Portofolio Sebagai Instrumen Penilaian Pembelajaran Siswa di Era Digital. *Jurnal Basicedu*, 6(2), 1883–1896. <https://doi.org/10.31004/basicedu.v6i2.2236>
- Masyithoh, S. (2019). Implementasi Asesmen Perkembangan Kognitif Anak Usia Dini. *Jurnal Care Children Advisory Research and Education*, 7(1), 27–35.
- Md Hashim, U. Z., Mohd Puad, M. H., Mohd Ayub, A. F., & Ghazali, N. (2024). Development and Assessment of Digital Pedagogy Competency Instrument for Teaching and Learning: A Needs Analysis. *International Journal of Academic Research in Progressive Education and Development*, 13(3). <https://doi.org/10.6007/IJARPED/v13-i3/22109>
- Mudrikah, S., Kusmuriyanto, K., & Kardiyem, K. (2021). Upaya Menumbuhkan Budaya Paperless Melalui Pemanfaatan Ispring Quiz Maker di SMK YPPM Boja. *Panrita Abdi - Jurnal Pengabdian Pada Masyarakat*, 5(1). <https://doi.org/https://doi.org/10.20956/pa.v5i1.9221>
- Mukhtar, Z. (2020). Analisis Tumbuh Kembang Anak Usia Dini dengan Asesmen Anecdotal Record. *KINDERGARTEN: Journal of Islamic Early Childhood Education*, 3(1), 70. <https://doi.org/10.24014/kjiece.v3i1.9501>
- Murro Nuril Chasanah, L., & Hasibuan, R. (2024). Analysis of the Role of Facial Expression in Media Presence in the Development of Social, Emotional, and Expressive Language Skills in Children Aged 3-4 Years. *Journal of Islamic Education Students (JIES)*, 4(1), 142. <https://doi.org/10.31958/jies.v4i1.12312>
- Nastiti, F. E., & 'Abdu, A. R. N. (2020). Kesiapan Pendidikan Indonesia Menghadapi era society 5.0. *Edcomtech: Jurnal Kajian Teknologi Pendidikan*, 5(1), 61–66.
- Palomba, E. (2022). Designing Learning Environments in Early Childhood: Educational Principles and Pedagogical Criteria In Reggio Children Approach. *14th International Conference on Education and New Learning Technologies*, 8923–8929. <https://doi.org/10.21125/edulearn.2022.2143>
- Periadi, Y. S., Yahya, F., & Erfan, M. (2018). Pengembangan Evaluasi Berbasis Media E-Portofolio pada Pembelajaran IPA Materi Tekanan di Kelas VIII SMP Negeri 3 Lopok. *QUARK: Jurnal Inovasi Pembelajaran Fisika Dan Teknologi*, 1(1), 46–50.
- Plowman, L., & McPake, J. (2013). Seven Myths About Young Children and Technology. *Childhood Education*, 89(1), 27–33. <https://doi.org/10.1080/00094056.2013.757490>
- Priyanti, N., & Warmansyah, J. (2021). The Effect of Loose Parts Media on Early Childhood Naturalist Intelligence. *JPUD - Jurnal Pendidikan Usia Dini*, 15(2), 239–257. <https://doi.org/10.21009/jpud.152.03>

- Pyle, A., & DeLuca, C. (2013). Assessment in the Kindergarten Classroom: An Empirical Study of Teachers' Assessment Approaches. *Early Childhood Education Journal*, 41(5), 373–380. <https://doi.org/10.1007/s10643-012-0573-2>
- Rahmawati, H., Zauri, A. S., Azami, M. I., & Ilmi, Y. I. N. (2024). Pelatihan Pembuatan Asesmen Digital Dengan Aplikasi Quiz-Maker I-Spring Bagi Guru-Guru SMA. *JMM (Jurnal Masyarakat Mandiri)*, 8(2), 2292. <https://doi.org/10.31764/jmm.v8i2.21104>
- Saleha, L., Baharun, H., & Utami, W. T. (2022). Implementation of Digital Literacy in Indonesia Early Childhood Education. *Indonesian Journal of Early Childhood Educational Research*, 1(1), 12–22. <https://doi.org/10.31958/ijecer.v1i1.5834>
- Sayfi'i, I., & Ilmayanti, A. F. F. (2021). Pengembangan Instrumen Penilaian Pada Perkembangan Fisik Motorik Anak Usia Dini Melalui Kegiatan Tari Kelompok B di TK Hasyim Asyari Suarabaya. *Islamic Edkids: Jurnal Pendidikan Anak Usia Dini*, 3(1), 44–51.
- Stiggins, R. (2005). From Formative Assessment to Assessment for Learning: A Path to Success in Standards-Based Schools. *Phi Delta Kappan*, 87(4), 324–328. <https://doi.org/10.1177/003172170508700414>
- Sugiri, W. A., & Priatmoko, S. (2020). Perspektif Asesmen Autentik Sebagai Alat Evaluasi Dalam Merdeka Belajar. *At-Thullab: Jurnal Pendidikan Guru Madrasah Ibtidaiyah*, 4(1), 53. <https://doi.org/10.30736/atl.v4i1.119>
- Sum, T. A., & Taran, E. G. M. (2020). Kompetensi Pedagogik Guru PAUD dalam Perencanaan dan Pelaksanaan Pembelajaran. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 4(2), 543. <https://doi.org/10.31004/obsesi.v4i2.287>
- Susanti, E., Sulistyaningsih, D., Sofi Makiyah, Y., Muhammad Ridwan, I., & Nana. (2024). Efektivitas Pelatihan Pembuatan E-LKPD Menggunakan Wizer.me, OLabs dan Proprofs Quiz Maker untuk Guru di SMAS Ittihadul Ummat. *KARISMAS - JURNAL PENGABDIAN KARYA INOVASI MASYARAKAT*, 1(2), 17–28. <https://doi.org/10.70282/karismas.v1i2.8>
- Suyadi, S. (2017). Perencanaan dan Asesmen Perkembangan Pada Anak Usia Dini. *Golden Age: Jurnal Ilmiah Tumbuh Kembang Anak Usia Dini*, 1(1), 65–74. <https://doi.org/10.14421/jga.2016.11-06>
- Warmansyah, J., Nurlaila, N., Mudinillah, A., & Fitri, A. D. (2023). The Utilization of Canva Application in Supporting Early Childhood Arabic Language Learning: Teachers' Perceptions / Pemanfaatan Aplikasi Canva Dalam Medukung Pembelajaran Bahasa Arab Anak Usia Dini: Persepsi Guru. *Lughawiyah: Journal of Arabic Education and Linguistics*, 5(2), 141. <https://doi.org/10.31958/lughawiyah.v5i2.10781>
- Warmansyah, J., Sari, M., Halif, A., Ismandela, A., Nabila, D. F., & Niarman, A. (2022). E-Portfolio as an Early Childhood Assessment Tool in Kindergarten. *Jurnal Pendidikan Anak Usia Dini Undiksha*, 10(3), 470–477. <https://doi.org/10.23887/paud.v10i3.53021>
- Warmansyah, J., Yuningsih, R., Sari, M., Halif, A., & Solin, S. S. (2023). Pelatihan Pembuatan Google Edu untuk Penilaian Kurikulum Merdeka di Satuan PAUD Kabupaten Tanah Datar. *Kreasi: Jurnal Pengabdian Masyarakat*, 3(2), 10–20. <https://doi.org/10.51529/kjpm.v3i2.440>
- Warmansyah, J., Yuningsih, R., Selva Nirwana, E., Ravidah, Putri, R., Amalina, & Masril. (2023). The Effect of Mathematics Learning Approaches and Self-Regulation to Recognize the Concept of Early Numbers Ability. *JPUUD - Jurnal*

- Pendidikan Usia Dini*, 17(1), 54–81. <https://doi.org/10.21009/JPUUD.171.05>
- Wiratsiwi, W., & Prastika, Y. (2022). Efektifitas Media Interaktif Berbasis Quiz Maker Dalam Pembelajaran Online di SDIT Mumtazul Qur'an Tambakboyo Tuban. *Jurnal Muassis Pendidikan Dasar*, 1(2), 162–169. <https://doi.org/10.55732/jmpd.v1i2.20>
- Wu, X. Y. (2024). Exploring the effects of digital technology on deep learning: a meta-analysis. In *Education and Information Technologies* (Vol. 29, Issue 1). Springer US. <https://doi.org/10.1007/s10639-023-12307-1>
- Wulandani, C., Afina Putri, M., Indah Pratiwi, R., & Sulong, K. (2022). Implementing Project-Based Steam Instructional Approach in Early Childhood Education in 5.0 Industrial Revolution Era. *Indonesian Journal of Early Childhood Educational Research (IJECEER)*, 1(1), 29–37. <https://doi.org/10.31958/ijecer.v1i1.5819>
- Yastibas, A. E., & Yastibas, G. C. (2015). The Use of E-portfolio-based Assessment to Develop Students' Self-regulated Learning in English Language Teaching. *Procedia - Social and Behavioral Sciences*, 176, 3–13. <https://doi.org/10.1016/j.sbspro.2015.01.437>
- Yuningsih, R., Andriani, L., Warmansyah, J., Sari, M., Wiliani, S., & Solin, S. S. (2024). The Implementation of the Principal's Academic Supervision in Improving the Professionalism of Early Childhood Educators. *Journal of Islamic Education Students (JIES)*, 4(1), 23. <https://doi.org/10.31958/jies.v4i1.12300>

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